

In re: Braun et al.  
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**REMARKS**

Attached hereto are a Substitute Specification, Claims and Abstract of the Invention. Also attached is a marked-up version of the changes made to the Specification, Claims, and Abstract by the current amendment. No new matter has been added. The first page of the attached pages is captioned "**SUBSTITUTE SPECIFICATION, CLAIMS AND ABSTRACT.**"

The Examiner is invited to telephone the undersigned, Applicant's Attorney of Record, to facilitate advancement of the present application.

Respectfully submitted,

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**SUBSTITUTE SPECIFICATION, CLAIMS AND ABSTRACT**

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~~Seat back, particularly rear seat back~~ A HEADREST FOR A SEAT

BACK, PARTICULARLY A REAR SEAT BACK

**TECHNICAL FIELD OF THE INVENTION**

[001] The invention relates to a headrest for a seat back,  
and more particularly, to a headrest for a rear seat back-  
based on the overall concept of Patent Claim 1 that pivots  
forward with respect to the seat back to preclude a user  
from using it when the headrest is placed below a minimum  
height.

**DESCRIPTION OF THE RELATED ART**

[002] ~~A known seat back of this type (DE 196 45 685 C2) is~~  
discloses a seat back for~~formed as a foldable rear of a~~  
front seat having a foldable rear seat. The headrest is also  
foldable, and is affixed to the rear seat back so that its  
height is not adjustable.

[003] ~~There is the~~ problem with adjustable headrests is that the seat user often adjusts the headrest too low. This ~~has the results that in~~ the headrest ~~does not functioning~~ in the planned and desired manner during a crash. A headrest setting that is too low is often found on rear seat backs. ~~A~~One possible reason for the seat back headrest being ~~setting that is too low is that it~~ allows the driver a better rearward view.

[004] ~~It may also be that the~~ Another possible reason that rear seat back headrests are adjusted too low ~~because is that~~ the most rear seat backs will not fold forward (e.g., to provide expanded luggage space) without hitting the backs of the front seat backs unless the headrests ~~is are~~ in ~~its the~~ lowest position. ~~There exists the particular~~ It is hazardous to drive with seat backs that ~~he rear seat is used with a~~ headrest that is set too low.

#### SUMMARY OF THE INVENTION

[005] The present invention is a seat back of the conventional type with a height-adjustable headrest in which the maintenance of a minimum height is ensured, because when the headrest is below the minimum height, the seat becomes practically not useable. The present invention is a headrest for use with a seat back of an automobile, including: a mount having a first end operatively attached to a top portion of the seat back, and wherein the headrest

is pivotably mounted to a distal end of the mount and pivots about a swivel axis; a spring operatively mounted to the headrest, and for applying a pressure against the headrest when the headrest is folded toward the seatback into engagement and in a "use" position; and wherein said headrest is pivoted out of engagement and about the swivel axis to tilt the headrest forward against the pressure of the spring when the headrest is lowered below a minimum height.

[006] The present invention is a seat back based on the invention namely that allows the headrest to be stored in a lowered position, which is useful because this allows better rearward visibility when the seat is not occupied or folded forward; however, ~~but~~ it is ensured that the seat is not useable if the headrest is set below ~~the~~ a minimum height.

~~Advantageous embodiments of the invention may be taken from the Dependent Claims.~~

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

[007] ~~In the following, an advantageous embodiment example of the invention are described in detail using illustrations, which show:~~ These and other features and advantages of the present invention will be better understood by reading the following detailed description, taken together with the drawing wherein:

[008] Fig.ure 1—~~lateral~~ is a side view of thean upper  
area of a seat back with a headrest with in a conventional  
height adjustment;7

[009] Fig.ure 2— is a side~~the~~ view according to~~per~~  
Fig.ure ~~{12}~~ but with a~~the~~ headrest set in a lower useable  
position;7

[0010] Fig.ure 3—~~the~~ is a side view according to ~~per-~~  
Figures. 1 and 2 ~~upon achievement of in~~ a lower release position  
at which the mechanism of the present invention causes the  
headrest to begin to folds forward;7

[0011] Fig.ure 4—~~the~~ is a side view according to ~~as in~~  
Fig.ure 3 with headrest folded forward;7 and

[0012] Fig.ure 5—~~the~~ is a side view according to ~~as in~~  
Fig.ure 4 with the lowered headrest folded forward but with  
the headrest in a lower position than that shown in Fig. 4.

#### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

[0013] Fig. 1 shows a headrest 2 for The upper area of a  
seat back 1 according to the present invention. The  
headrest 2 is connected to the seat back 1 by a mount 4. is  
~~shown with a~~ A first end of the mount 4 is operatively  
mounted to the seat back 1, and the mount 4 extends from the  
seat back 1. and an attached The headrest 2 is operatively  
and rotatably attached to a distal end of the mount 4  
and that may tilt or pivot about a horizontal swivel axis 3.

For illustration purposes, a~~The~~ head 10 of a user is also shown.

[0014] The mount 4 is height-adjustable, and may, for example, include two rods or mounts 4 positioned parallel to each other between the seat back 1 and headrest 2 in a conventional manner ~~that are fed~~ and extending through bushings (shown generally at 11) ~~positioned~~ in the seat back 1.

[0015] The ~~mount 4~~ headrest 2 is supported ~~s~~ and is pivotably mounted to the headrest 2 ~~one or more mounts 4 in~~ such ~~a manner~~ that it ~~may~~ can be tilted or pivoted about ~~a~~ the horizontal swivel axis 3. An engaging element ~~designated with 7~~ is positioned on ~~the top~~ the distal end of the mount 4, wherein the engaging element 7 ~~that~~ includes an engagement recess 7a and a stop 7b, Fig. 4. A spring 5, preferably formed as a leg spring, is mounted concentric with the ~~tilt~~ horizontal swivel axis 3, ~~and with one a first leg restings on or in contact with the mount 4 and the other a second leg pressings it against a loading spring or region 5a, e.g., a bushing affixed to the headrest 2, Fig. 2.~~

[0016] An adjustment lever 6 is operatively and rotatably mounted ~~onto~~ to the headrest 2 on a swivel axis 8. The adjustment lever 6 is, preferably, an angled lever, and ~~possesses~~ has a first area 6a on ~~its~~ an upper end and a second

area 6b on ~~its~~a lower end. The adjustment lever 6 is attached or affixed by~~to a spring in the form of a tension~~ spring 9 so that ~~it~~the first area 6a is held in the engagement recess 7a as long as the mount 4 has adequate height for use or is above a minimum height. However, When the mount 4 is lowered to ~~the~~the minimum height point or below, ~~that~~ the second area 6b of the adjustment lever 6 reaches or contacts a contact area 11, Fig. 3, that is affixed or attached to the seat back 1, and the adjustment lever 6 ~~is~~sepivots or swivels counter-clockwise such that ~~it~~the first area 6a ~~[extends]~~<sup>1</sup>moves out of the engagement recess 7a and into engagement with the stop 7b. ~~As soon as the engagement between headrest and mount that exists in use position because of~~ As the first area 6a of the adjustment lever 6 moves ~~[extension] of the area 6a out from the~~ engagement recess 7a and is released, the spring 5 pivots or swivels the headrest 2 in a clockwise direction to an approximately perpendicular position with respect to the seat back 1 as shown ~~until it reaches the position visible~~ in Fig. 4. In this strike or upward tilt position, the first area 6a of the adjustment lever 6 rests against the stop 7b of the ~~engaging~~engagement element 7 connected firmly to the mount 4. With the headrest 2 in the strike or upward tilt ~~swiveled forward in this position, the~~an end of the

<sup>1</sup>Translator's Note: Cannot find the verb "austauschen."

headrest 2 ~~formerly~~previously resting below extends toward  
the user's head 10~~so far forward that the head 10 of a such~~  
that the user must maintain a considerable distance from a  
resting surface 1a of the seat back 1, thereby ~~. Such a~~  
~~great distance to the resting surface 1a of the seat back 1~~  
makinges the use of the seat back 1 practically impossible  
to use.

[0017] ~~It is visible from Figure 54 that, after~~shows the  
headrest 2 in the ~~being folded forward position~~with respect  
~~to the position in Figure 4, and, Fig. 5 shows the headrest~~  
2 in the folded forward position also but may be in a lowered  
furtherposition lower than that shown in Fig. 4. This  
further lowered position, Fig. 5, leads to an even better  
rearward view, and allows the seat back 1 to be swiveled  
into an almost vertical position even when the front seat is  
positioned to the rear.

[0018] In order to attain the initial or "use" position,  
the headrest 2 is pulled up manually and swiveled in the  
counter-clockwise direction until the first area 6a of the  
adjustment lever 6 has again moved or dropped into the  
engagement recess 7a of the engaging member 7, which is due  
to ~~because of~~ the action of the spring 9.

[0019] Modifications and substitutions by one of ordinary  
skill in the art are considered to be within the scope of

the present invention, which is not to be limited except by  
the claims, which follow.

~~Patent Claims:~~ CLAIMS

What is claimed is:

1. ~~——~~ A headrest for use with a seat back (1),  
~~particularly the seat back of a rear seat of an automobile,~~  
with comprising:

a mount having a first end (4) firmly affixed  
operatively attached to a top portion of the seat back, and  
wherein —onto which—the headrest is pivotably mounted to a  
second end of the mount and pivots about a swivel axis; (2)—  
that is under pressure from —

a spring operatively mounted (5) to the headrest, and  
for applying a pressure against the headrest when the  
headrest is folded toward and generally parallel with the  
seatback into engagement and in a "use" position; and

wherein said headrest —and that is mounted so that it—  
may be swiveled is pivoted out of engagement and about the  
horizontal swivel axis (3) to tilt the headrest forward and  
generally perpendicular with the seatback against the  
pressure of the spring when the headrest is lowered below a  
minimum height. (5), and may be fixed in use position against  
that spring pressure and which folds forward under pressure  
of the spring (5) when released,  
characterized in that  
the height of the mount may be adjusted, and engagement is  
released when the height of the mount (4) is adjusted below

~~a certain level.~~ 2. ~~——The headrest for use with the Sseat~~  
~~back as in~~according to Claim 1, characterized in that  
~~attachment~~wherein the engagement is provided by means of a  
~~releasable engagement device including~~that includes an  
adjustment lever and engaging element, (6) the adjustment  
lever operatively and rotatably connected to the headrest-  
(2), and the engaging element generally fixedly mounted to  
the mount, wherein the engaging element has an engagement  
recess and a stop, and the adjustment lever has a first area  
and a second area, whose wherein the first area of the  
engaging element (6a) engages in athe engagement recess (7a)  
~~affixed to the mount under the pressure from the of a spring~~  
in the headrest "use" position (9), and when the height of  
the headrest is adjusted to below the minimum height, the  
~~with a second area (6b) shaped to rest against~~contacts an  
contact area (11) affixed onto the seat back, and when the  
~~headrest (2) is lowered below a minimum height and for the~~  
~~resulting [extension] of the first area is released (6a) out~~  
from the engagement from the engagement recess (7a) causing  
the headrest to tilt forward and generally perpendicular  
with the seatback against the pressure of the spring.

3. ~~——The headrest for use with the Sseat back as~~  
~~in~~according to Claim 1 or 2, characterized in that  
~~the~~further including an engagement adjustment lever (6) is a

~~two armed lever that includes the~~ having a first area (6a) on  
~~theat a first end of the first lever arm and thea~~ second  
~~area (6b) on the end of the second lever arm at a second~~  
end.

4. ~~——The headrest for use with the Sseat back as~~  
~~in~~ according to Claim 3, characterized in that ~~wherein the~~  
~~lockingadjustment lever (6) is shaped as an angled lever.~~

5. ~~——The headrest for use with the Sseat back~~  
~~according to at least one of Claims 1 through 4,~~  
~~characterized in that~~ wherein the lockingadjustment lever (6)  
~~may be swiveled about a lever axis (8) parallel to the~~  
~~horizontal swivel axis (3) of the headrest (2).~~

6. ~~——The headrest for use with the Sseat back~~  
~~according to at least one of Claims 1 through 5,~~  
~~characterized in that~~ wherein, when the lockingadjustment  
~~lever (6) is in thean alternate position, the of a first~~  
~~area (6a) of the adjustment lever disengages from an~~  
~~engagement recess (7a), the locking lever (6) is shaped so~~  
~~as to rest on the stop (7b), and that the headrest (2) is~~  
~~positioned in itsa forward-most position generally~~  
perpendicular with the seatback when the adjustment lever  
engages a stop is reached.

7. ———The headrest for use with the Sseat back according to at least one of Claims 1 through 6, characterized in that wherein the spring (5) loading the headrest (2) is a leg spring operatively mounted concentric to the swivel axis (3).

8. ———The headrest for use with the Sseat back according to at least one of Claims 1 through 7, characterized in that the further including a second spring (9) between the first area of the adjustment lever and the headrest, and wherein loading the locking lever (6) second spring is a tension spring.

9. ———The headrest for use with the Sseat back according to at least one of Claims 1 through 8, characterized in that wherein the headrest is pivotable about the swivel axis (3) is provided at when the headrest is lowered or raised with respect to the seatback the upper and lower areas of the headrest (2).

10. ———The headrest for use with the Sseat back according to at least one of Claims 1 through 9, wherein characterized in that the headrest (2) may be further lowered after it has been lowered to the a minimum height setting and has been tilted forward.

~~Abstract:~~ ABSTRACT OF THE INVENTION

A headrest for use with a seat back,  
~~particularly preferably for the seat back of a~~ rear seat of  
an automobile, ~~possesses~~ having a mount ~~firmly~~  
~~affixed~~ operatively attached to the seat back ~~on which~~ and a  
headrest ~~is~~ pivotably mounted so that it may pivot or swivel  
forward about a ~~horizontal~~ swivel axis. In a use position, a  
spring places pressure or a load on the headrest ~~is under~~  
~~load by a spring,~~ and may be engaged or locked against  
folding forward because of the spring. When the headrest is  
lowered below a minimum height, the headrest is  
automatically unlocked or disengaged, and the headrest  
~~fold~~ moves forward generally perpendicular with the seatback  
under the force of the spring. The mount is adjustable in  
height, and ~~locking~~ the headrest is automatically released  
from the engaged or locked position when the headrest is  
lowered below a ~~specified~~ minimum height.